

CLAIMS

1. An antenna for a portable communication device, the antenna including at least one single wire memory device programmed with antenna parameters.

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2. The antenna of claim 1, wherein the programmed antenna parameters are alterable.

3. The antenna of claim 1, wherein the at least one single memory wire device can be manipulated by the portable communication device.

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4. The antenna of claim 1, wherein the at least one single wire memory device manipulates operation of the portable communication device.

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5. The antenna of claim 1, wherein the at least one single wire memory device comprises a 1-wire device.

6. The antenna of claim 1, wherein the at least one single wire memory device comprises an EEPROM.

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7. The antenna of claim 1, further comprising a single coaxial connector and the at least one single wire device being electrically coupled thereto.

8. An antenna, comprising:

a single wire memory device programmed with antenna parameters; and

a single coaxial antenna connector, the single coaxial connector enabling both RF transport and single wire bus communications.

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9. A radio and antenna interface system, comprising:

a radio including radio electronic circuitry for diplexing RF and baseband signals;

an antenna including antenna electronic circuitry for diplexing RF and
5 baseband signals;

a coaxial interface coupling the radio and the antenna, the coaxial interface providing a transport for both the RF and baseband signals; and

a memory device embedded in the antenna and coupled to the coaxial interface.

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10. The radio and antenna interface system of claim 9, wherein the memory device is a single wire memory device.

11. The radio and antenna interface system of claim 9, comprising

15 at the radio:

a radio coaxial center conductor capacitively coupled to pass RF signals while blocking baseband signals; and

the radio coaxial center conductor also being DC coupled through an RF blocking inductor to pass baseband signals;

20 at the antenna:

an antenna coaxial center conductor for coupling to the radio coaxial center conductor;

a radiator element coupled to the antenna coaxial center for passing RF signals; and

an inductor coupled to the antenna coaxial center for blocking RF signals and passing baseband signals to and from the memory device.

12. An antenna, comprising:

an antenna center conductor: and

a single wire memory device electrically coupled to the antenna center
conductor.

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13. The antenna of claim 12, wherein the antenna center conductor transports
both RF and baseband signals.

14. The antenna of claim 12, wherein the single wire memory device

10 comprises an EEPROM.

15. An antenna interface system, comprising:
- an antenna center conductor;
- a single wire memory device electrically coupled to the antenna center conductor; and
- 5 a radio center conductor for coupling to the antenna center conductor.
16. The antenna system of claim 15, wherein the single wire memory device provides at least one of antenna model number, manufacturer ID, predetermined compatible radio models, minimum and maximum frequencies of operation,
- 10 impedance level, power level as a function of frequency, radiating efficiency as a function of frequency, model parameters for impedance change in proximity to human body, and electronic control specifications as well as other parameters.
17. The antenna system of claim 15, wherein the single wire memory device
- 15 provides impedance versus frequency parameters, the radio automatically impedance matching to the antenna impedance as the radio changes frequency without having to measure the impedance of the antenna.
18. The antenna system of claim 15, wherein the single wire memory device
- 20 provides efficiency as a function of frequency parameters and the radio utilizes these parameters for leveling the radio's effective rated power (ERP) over a frequency range.

19. The antenna system of claim 15, further comprising additional devices within the antenna for controlling predetermined antenna parameters.

20. The antenna system of claim 19, wherein the additional devices include a
5 parallel output single wire I/O device.

21. The antenna system of claim 20, wherein the parallel output single wire I/O device opens and closes switch contacts to alter the operating frequency of the antenna.

22. An antenna, comprising:

an antenna center conductor; and

at least one single wire bus device electrically coupled to the antenna center conductor to dynamically control operating parameters of the antenna.

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23. The antenna of claim 22, wherein the at least one single wire bus device dynamically alters the frequency of operation of the antenna.

24. An antenna for coupling to a portable communication device, the antenna comprising a memory device for storing antenna parameters, the radio determining whether a correct antenna has been coupled thereto based on the antenna parameters, and the radio providing an error message when an incorrect antenna has been coupled thereto.

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25. The antenna of claim 24, wherein the memory device comprises a single wire memory device.

10 26. The antenna of claim 24, wherein the radio automatically adjusts radio operations in response to the stored antenna parameters.